Michael D Toney

List of Publications by Year
in descending order

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59 papers	3,172 citations	126907 33 h-index	149698 56 g-index
60 all docs	60 docs citations	60 times ranked	2587 citing authors

#	Article	IF	Citations
1	Carbon Acidity in Enzyme Active Sites. Frontiers in Bioengineering and Biotechnology, 2019, 7, 25.	4.1	9
2	Conversion of Aminodeoxychorismate Synthase into Anthranilate Synthase with Janus Mutations: Mechanism of Pyruvate Elimination Catalyzed by Chorismate Enzymes. Biochemistry, 2015, 54, 2372-2384.	2.5	14
3	Directed evolution of the substrate specificity of dialkylglycine decarboxylase. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2015, 1854, 146-155.	2.3	14
4	Aspartate aminotransferase: An old dog teaches new tricks. Archives of Biochemistry and Biophysics, 2014, 544, 119-127.	3.0	99
5	NMR Studies of Protonation and Hydrogen Bond States of Internal Aldimines of Pyridoxal 5â€²-Phosphate Acidâ€“Base in Alanine Racemase, Aspartate Aminotransferase, and Poly-<scp>l</scp>-lysine. Journal of the American Chemical Society, 2013, 135, 18160-18175.	13.7	67
6	Janus: Prediction and Ranking of Mutations Required for Functional Interconversion of Enzymes. Journal of Molecular Biology, 2013, 425, 1378-1389.	4.2	21
7	Expression and characterization of PhzE from P. aeruginosa PAO1: aminodeoxyisochorismate synthase involved in pyocyanin and phenazine-1-carboxylate production. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2013, 1834, 240-246.	2.3	22
8	Ground-State Electronic Destabilization via Hyperconjugation in Aspartate Aminotransferase. Journal of the American Chemical Society, 2012, 134, 8436-8438.	13.7	16
9	Crystal Structures of Aspartate Aminotransferase Reconstituted with 1-Deazapyridoxal 5â€²-Phosphate: Internal Aldimine and Stablel-Aspartate External Aldimine. Biochemistry, 2011, 50, 5918-5924.	2.5	14
10	Role of the Pyridine Nitrogen in Pyridoxal 5â€²-Phosphate Catalysis: Activity of Three Classes of PLP Enzymes Reconstituted with Deazapyridoxal 5â€²-Phosphate. Journal of the American Chemical Society, 2011, 133, 14823-14830.	13.7	63
11	Critical hydrogen bonds and protonation states of pyridoxal 5â€²-phosphate revealed by NMR. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2011, 1814, 1426-1437.	2.3	57
12	NMR studies of the protonation states of pyridoxal-5â€²-phosphate in water. Journal of Molecular Structure, 2010, 976, 282-289.	3.6	26
13	Chemoenzymatic synthesis of 1-deaza-pyridoxal 5â€²-phosphate. Bioorganic and Medicinal Chemistry Letters, 2010, 20, 1352-1354.	2.2	9
14	NMR Studies of the Stability, Protonation States, and Tautomerism of13C- and15N-Labeled Aldimines of the Coenzyme Pyridoxal 5â€²-Phosphate in Water. Biochemistry, 2010, 49, 10818-10830.	2.5	39
15	Mutational Analysis of Substrate Interactions with the Active Site of Dialkylglycine Decarboxylase. Biochemistry, 2010, 49, 6485-6493.	2.5	11
16	Nucleophile Specificity in Anthranilate Synthase, Aminodeoxychorismate Synthase, Isochorismate Synthase, and Salicylate Synthase. Biochemistry, 2010, 49, 2851-2859.	2.5	28
17	Targeting Multiple Chorismate-Utilizing Enzymes with a Single Inhibitor: Validation of a Three-Stage Design. Journal of Medicinal Chemistry, 2010, 53, 3718-3729.	6.4	25
18	Light-Enhanced Catalysis by Pyridoxal Phosphate-Dependent Aspartate Aminotransferase. Journal of the American Chemical Society, 2010, 132, 16953-16961.	13.7	16

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19	Rapid Photodynamics of Vitamin B₆Coenzyme Pyridoxal 5â€˜-Phosphate and Its Schiff Bases in Solution. Journal of Physical Chemistry B, 2008, 112, 5867-5873.	2.6	34
20	NMR Localization of Protons in Critical Enzyme Hydrogen Bonds. Journal of the American Chemical Society, 2007, 129, 9558-9559.	13.7	66
21	Coupling of Functional Hydrogen Bonds in Pyridoxal-5â€˜-phosphateâ€™Enzyme Model Systems Observed by Solid-State NMR Spectroscopy. Journal of the American Chemical Society, 2007, 129, 4440-4455.	13.7	100
22	NMR Studies of Coupled Low- and High-Barrier Hydrogen Bonds in Pyridoxal-5â€˜-phosphate Model Systems in Polar Solution. Journal of the American Chemical Society, 2007, 129, 6313-6327.	13.7	82
23	15N Nuclear Magnetic Resonance Studies of Acidâ€™Base Properties of Pyridoxal-5â€˜-Phosphate Aldimines in Aqueous Solution. Journal of Physical Chemistry B, 2007, 111, 3869-3876.	2.6	55
24	Intrinsic Primary and Secondary Hydrogen Kinetic Isotope Effects for Alanine Racemase from Global Analysis of Progress Curves. Journal of the American Chemical Society, 2007, 129, 10678-10685.	13.7	24
25	Observation by NMR of the tautomerism of an intramolecular OHOHN-charge relay chain in a model Schiff base. Journal of Molecular Structure, 2007, 844-845, 319-327.	3.6	43
26	NMR Studies of Solvent-Assisted Proton Transfer in a Biologically Relevant Schiff Base:Â Toward a Distinction of Geometric and Equilibrium H-Bond Isotope Effects. Journal of the American Chemical Society, 2006, 128, 3375-3387.	13.7	108
27	Aminodeoxychorismate Synthase Inhibitors from One-Bead One-Compound Combinatorial Libraries:Â â€œStagedâ€•Inhibitor Design. Journal of Medicinal Chemistry, 2006, 49, 7413-7426.	6.4	21
28	Direct Detection and Kinetic Analysis of Covalent Intermediate Formation in the 4-Amino-4-deoxychorismate Synthase Catalyzed Reaction. Biochemistry, 2006, 45, 5019-5028.	2.5	23
29	Slow-Binding Human Serine Racemase Inhibitors from High-Throughput Screening of Combinatorial Libraries. Journal of Medicinal Chemistry, 2006, 49, 2388-2397.	6.4	34
30	X-ray crystallographic structures of enamine and amine Schiff bases of pyridoxal and its 1:1 hydrogen-bonded complexes with benzoic acid derivatives: evidence for coupled inter- and intramolecular proton transfer. Acta Crystallographica Section B: Structural Science, 2006, 62, 480-487.	1.8	35
31	Ionization state of pyridoxal 5â€²-phosphate in d-serine dehydratase, dialkylglycine decarboxylase and tyrosine phenol-lyase and the influence of monovalent cations as inferred by 31P NMR spectroscopy. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2006, 1764, 230-238.	2.3	11
32	Serine Racemase Modulates Intracellular D-Serine Levels through an Î±,Î²-Elimination Activity. Journal of Biological Chemistry, 2005, 280, 1754-1763.	3.4	193
33	Kinetic and Crystallographic Analysis of Active Site Mutants ofEscherichia coliÎ³-Aminobutyrate Aminotransferaseâ€. Biochemistry, 2005, 44, 2982-2992.	2.5	45
34	Role of Q52 in Catalysis of Decarboxylation and Transamination in Dialkylglycine Decarboxylaseâ€. Biochemistry, 2005, 44, 16392-16404.	2.5	33
35	Reaction specificity in pyridoxal phosphate enzymes. Archives of Biochemistry and Biophysics, 2005, 433, 279-287.	3.0	246
36	Alanine Racemase Free Energy Profiles from Global Analyses of Progress Curves. Journal of the American Chemical Society, 2004, 126, 7464-7475.	13.7	56

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37	Kinetic and Thermodynamic Analysis of the Interaction of Cations with Dialkylglycine Decarboxylase. Biochemistry, 2004, 43, 4998-5010.	2.5	7
38	Crystal Structures of Unbound and Aminooxyacetate-BoundEscherichia coliÎ³-Aminobutyrate Aminotransferaseâ€. Biochemistry, 2004, 43, 10896-10905.	2.5	65
39	Conservation of Mechanism in Three Chorismate-Utilizing Enzymes. Journal of the American Chemical Society, 2004, 126, 2378-2385.	13.7	86
40	Multiple Hydrogen Kinetic Isotope Effects for Enzymes Catalyzing Exchange with Solvent:Â Application to Alanine Racemase. Biochemistry, 2003, 42, 5099-5107.	2.5	61
41	Kinetic Analysis of the 4-Methylideneimidazole-5-one-Containing Tyrosine Aminomutase in Enediyne Antitumor Antibiotic C-1027 Biosynthesisâ€. Biochemistry, 2003, 42, 12708-12718.	2.5	75
42	A Novel 4-Methylideneimidazole-5-one-Containing Tyrosine Aminomutase in Enediyne Antitumor Antibiotic C-1027 Biosynthesis. Journal of the American Chemical Society, 2003, 125, 6062-6063.	13.7	111
43	Aminophosphonate Inhibitors of Dialkylglycine Decarboxylase:Â Structural Basis for Slow Binding Inhibitionâ€,â€¡. Biochemistry, 2002, 41, 12320-12328.	2.5	79
44	Computational Studies on Nonenzymatic and Enzymatic Pyridoxal Phosphate Catalyzed Decarboxylations of 2-Aminoisobutyrateâ€. Biochemistry, 2001, 40, 1378-1384.	2.5	36
45	Metal Ion Inhibition of Nonenzymatic Pyridoxal Phosphate Catalyzed Decarboxylation and Transamination. Journal of the American Chemical Society, 2001, 123, 193-198.	13.7	77
46	Rapid Kinetic and Isotopic Studies on Dialkylglycine Decarboxylaseâ€. Biochemistry, 2001, 40, 1367-1377.	2.5	29
47	pH Studies on the Mechanism of the Pyridoxal Phosphate-Dependent Dialkylglycine Decarboxylaseâ€. Biochemistry, 1999, 38, 311-320.	2.5	55
48	Evidence for a Two-Base Mechanism Involving Tyrosine-265 from Arginine-219 Mutants of Alanine Racemaseâ€. Biochemistry, 1999, 38, 4058-4065.	2.5	126
49	Crystal structures of dialkylglycine decarboxylase inhibitor complexes 1 1Edited by R. Huber. Journal of Molecular Biology, 1999, 294, 193-200.	4.2	50
50	Coexisting Kinetically Distinguishable Forms of Dialkylglycine Decarboxylase Engendered by Alkali Metal Ions. Biochemistry, 1998, 37, 5761-5769.	2.5	21
51	Pre-Steady-State Kinetic Analysis of the Reactions of Alternate Substrates with Dialkylglycine Decarboxylase. Biochemistry, 1998, 37, 3876-3885.	2.5	18
52	Reactions of Alternate Substrates Demonstrate Stereoelectronic Control of Reactivity in Dialkylglycine Decarboxylase. Biochemistry, 1998, 37, 3865-3875.	2.5	33
53	Active site model for Î³â€aminobutyrate aminotransferase explains substrate specificity and inhibitor reactivities. Protein Science, 1995, 4, 2366-2374.	7.6	29
54	Structural and Mechanistic Analysis of Two Refined Crystal Structures of the Pyridoxal Phosphate-dependent Enzyme Dialkylglycine Decarboxylase. Journal of Molecular Biology, 1995, 245, 151-179.	4.2	116

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55	Lysine 258 in aspartate aminotransferase: Enforcer of the Circe effect for amino acid substrates and the general-base catalyst for the 1,3-prototropic shift. Biochemistry, 1993, 32, 1471-1479.	2.5	100
56	Crystal structure of true enzymic reaction intermediates: Aspartate and glutamate ketimines in aspartate aminotransferase. Biochemistry, 1993, 32, 13451-13462.	2.5	91
57	Kinetics and equilibria for the reactions of coenzymes with wild type and the Y70F mutant of Escherichia coli aspartate aminotransferase. Biochemistry, 1991, 30, 7461-7466.	2.5	32
58	Crystallization and preliminary X-ray diffraction studies of dialkylglycine decarboxylase, a decarboxylating transaminase. Journal of Molecular Biology, 1991, 222, 873-875.	4.2	6
59	2.8-.ANG.-resolution crystal structure of an active-site mutant of aspartate aminotransferase from Escherichia coli. Biochemistry, 1989, 28, 8161-8167.	2.5	109